

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (currently amended) An iris camera module comprising:
2 an image pickup optical system for picking up an image of
3 the iris; and
4 a target optical system for displaying a target for the
5 eye; and
6 a target screen where the target is displayed,
7 wherein the target optical system and the image pickup
8 optical system are integrated into a single unit.

1 2. (currently amended) An iris camera module according to
2 claim 1, wherein the image pickup optical system includes:
3 an infrared illuminating section for irradiating an
4 infrared ray onto the eye;
5 an image pickup section for picking up the image of the
6 iris by detecting the infrared ray reflected on the
7 eye; and
8 an image pickup optical section for guiding the infrared
9 ray reflected on the eye to the image pickup
10 section, wherein the target optical system includes:
11 a target screen where the target is displayed; and
12 a target optical section for guiding the image of the
13 target on the target screen to the eye.

1 3. (original) An iris camera module according to claim 2,
2 wherein the image pickup optical section and the target
3 optical section include a common half mirror for reflecting to
4 guide the infrared ray reflected on the eye to the image
5 pickup section and guiding the image of the target on the
6 target screen to the eye without reflecting the image.

1 4. (original) An iris camera module according to claim 2,
2 wherein the image pickup optical section and the target
3 optical section include a common half mirror for guiding the
4 infrared ray reflected on the eye to the image pickup section
5 without reflecting the infrared ray and reflecting to guide
6 the image of the target on the target screen to the eye.

1 5. (original) An iris camera module according to claim 1,
2 wherein the target optical system includes a screen
3 illuminating section for illuminating the target screen.

1 6. (original) An iris camera module according to claim 2,
2 wherein the image pickup section includes:
3 an image pickup element for picking up the image of the
4 iris;
5 a storage for storing a reference iris information; and
6 a comparator section for comparing an information based
7 on the image of the iris picked up by the image
8 pickup section with the reference iris information
9 to output the comparison result as to whether
10 matching is obtained.

1 7. (original) An iris camera module according to claim 6,
2 wherein the reference iris information can be overwritten only
3 a predetermined number of times in the storage.

1 8. (original) An iris camera module according to claim 2,
2 wherein the image pickup section includes:
3 an image pickup element for picking up the image of the
4 iris; and
5 a connector section for coupling an external circuit
6 detachable from the image pickup section,
7 wherein the external circuit includes:

8 a storage for storing a reference iris information; and
9 a comparator section for comparing an information based
10 on the iris picked up by the image pickup section
11 with the reference iris information to output the
12 comparison result as to whether matching is
13 obtained.

1 9. (previously presented) An iris camera module
2 comprising:
3 an image pickup optical system for picking up an image of
4 the iris of a user; and
5 a target optical system including a target screen for
6 displaying a target for aligning the eye of the
7 user, wherein the target optical system and the
8 image pickup optical system are integrated onto a
9 common substrate.

1 10. (previously presented) An iris camera module
2 according to claim 9, wherein the image pickup optical system
3 includes:
4 an infrared illuminating section for irradiating an
5 infrared ray onto the eye;
6 an image pickup section for picking up the image of the
7 iris by detecting the infrared ray reflected on the
8 eye; and
9 an image pickup optical section for guiding the infrared
10 ray reflected on the eye to the image pickup
11 section,
12 and further wherein the target optical system includes:
13 a target optical section for guiding the image of
14 the target on the target screen to the eye.

1 11. (previously presented) An iris camera module
2 according to claim 10, wherein the image pickup optical

3 section and the target optical section include a common half
4 mirror for reflecting to guide the infrared ray reflected on
5 the eye to the image pickup section and guiding the image of
6 the target on the target screen to the eye without reflecting
7 the image.

1 12. (previously presented) An iris camera module
2 according to claim 10, wherein the image pickup optical
3 section and the target optical section include a common half
4 mirror for guiding the infrared ray reflected on the eye to
5 the image pickup section without reflecting the infrared ray
6 and reflecting to guide the image of the target on the target
7 screen to the eye.

1 13. (previously presented) An iris camera module
2 according to claim 9, wherein the target optical system
3 includes a screen illuminating section for illuminating the
4 target screen.

1 14. (previously presented) An iris camera module
2 according to claim 10, wherein the image pickup section
3 further includes:

4 an image pickup element for picking up the image of the
5 iris;
6 a storage for storing a reference iris information; and
7 a comparator section for comparing an information based
8 on the image of the iris picked up by the image
9 pickup section with the reference iris information
10 to output the comparison result as to whether
11 matching is obtained.

1 15. (previously presented) An iris camera module
2 according to claim 14, wherein the reference iris information
3 can be overwritten only a predetermined number of times in the

4 storage.

1 16. (previously presented) An iris camera module
2 according to claim 10, wherein the image pickup section
3 further includes:

4 an image pickup element for picking up the image of the
5 iris; and

6 a connector section for coupling an external circuit
7 detachable from the image pickup section,
8 and wherein the external circuit includes:

9 a storage for storing a reference iris information; and
10 a comparator section for comparing an information based
11 on the iris picked up by the image pickup section
12 with the reference iris information to output the
13 comparison result as to whether matching is
14 obtained.

1 17. (previously presented) An iris camera module
2 comprising:

3 an image pickup optical system for picking up an image of
4 the iris of a user;
5 a target optical system for displaying a target for
6 aligning the eye of the user;
7 a storage for storing a reference iris information; and
8 a comparator section for comparing an information based
9 on the image of the iris picked up by the image
10 pickup section with the reference iris information
11 to output the comparison result as to whether
12 matching is obtained, wherein
13 the reference iris information can be overwritten only a
14 predetermined number of times in the storage.

1 18. (previously presented) An iris camera module
2 comprising:

3 an image pickup optical system for picking up an image of
4 the iris of a user;
5 a target optical system for displaying a target for
6 aligning the eye of the user;
7 a storage for storing a reference iris information; and
8 a comparator section for comparing an information based
9 on the image of the iris picked up by the image
10 pickup section with the reference iris information
11 to output the comparison result as to whether
12 matching is obtained, wherein
13 the reference iris information cannot be overwritten.

1 19. (previously presented) An iris camera module
2 comprising:
3 an image pickup optical system for picking up an image of
4 the iris of a user, said image optical system
5 including:
6 an illuminating section for irradiating a ray onto
7 the eye;
8 an image pickup section for picking up the image of
9 the iris by detecting the ray reflected on the
10 eye; and
11 an image pickup optical section for guiding the ray
12 reflected on the eye to the image pickup
13 section;
14 a target optical system for displaying a target for
15 aligning the eye of the user, said target optical
16 system including:
17 a target screen;
18 a target optical section for guiding the image of
19 the target on the target screen to the eye; and
20 a screen illuminating section for illuminating the
21 target screen with either ambient light or
22 artificial light;

23 a storage for storing a reference iris information; and
24 a comparator section for comparing an information based
25 on the image of the iris picked up by the image
26 pickup section with the reference iris information
27 to output the comparison result as to whether
28 matching is obtained, wherein
29 the reference iris information can be overwritten only a
30 predetermined number of times in the storage.

1 20. (previously presented) An iris camera module
2 according to claim 19, wherein the image pickup optical
3 section and the target optical section include a common half
4 mirror for reflecting to guide the infrared ray reflected on
5 the eye to the image pickup section and guiding the image of
6 the target on the target screen to the eye without reflecting
7 the image.

1 21. (previously presented) An iris camera module
2 according to claim 19, wherein the image pickup optical
3 section and the target optical section include a common half
4 mirror for guiding the infrared ray reflected on the eye to
5 the image pickup section without reflecting the infrared ray
6 and reflecting to guide the image of the target on the target
7 screen to the eye.

1 22. (new) An iris camera module comprising:
2 an eye illuminating section for irradiating a light ray
3 onto the eye;
4 an image pickup optical system for picking up an image of
5 the iris;
6 a target optical system including a target screen for
7 displaying a target for the eye;

8 a screen illuminating section different from said eye
9 illuminating section for illuminating the target
10 screen;
11 wherein the target optical system and the image pickup
12 optical system are integrated into a single unit.

1 23. (new) An iris camera module according to claim 22,
2 wherein the image pickup optical system includes:
3 an image pickup section for picking up the image of the
4 iris by detecting the light ray reflected on the
5 eye; and
6 an image pickup optical section for guiding the light ray
7 reflected on the eye to the image pickup section,
8 wherein the target optical system includes a target
9 optical section for guiding the image of the target
10 on the target screen to the eye.

1 24. (new) An iris camera module according to claim 23,
2 wherein the image pickup optical section and the target
3 optical section include a common half mirror for reflecting to
4 guide the light ray reflected on the eye to the image pickup
5 section and guiding the image of the target on the target
6 screen to the eye without reflecting the image.

1 25. (new) An iris camera module according to claim 23,
2 wherein the image pickup optical section and the target
3 optical section include a common half mirror for guiding the
4 light ray reflected on the eye to the image pickup section
5 without reflecting the light ray and reflecting to guide the
6 image of the target on the target screen to the eye.

1 26. (new) An iris camera module according to claim 23,
2 wherein the image pickup section includes:
3 an image pickup element for picking up the image of the

4 iris;
5 a storage for storing a reference iris information; and
6 a comparator section for comparing an information based
7 on the image of the iris picked up by the image
8 pickup section with the reference iris information
9 to output the comparison result as to whether
10 matching is obtained.

1 27. (new) An iris camera module according to claim 26,
2 wherein the reference iris information can be overwritten only
3 a predetermined number of times in the storage.

1 28. (new) An iris camera module according to claim 23,
2 wherein the image pickup section includes:
3 an image pickup element for picking up the image of the
4 iris; and
5 a connector section for coupling an external circuit
6 detachable from the image pickup section,
7 wherein the external circuit includes:
8 a storage for storing a reference iris information; and
9 a comparator section for comparing an information based
10 on the iris picked up by the image pickup section
11 with the reference iris information to output the
12 comparison result as to whether matching is
13 obtained.

1 29. (new) An iris camera module comprising:
2 an eye illuminating section for irradiating a light ray
3 onto the eye;
4 an image pickup section including a sensor for picking up
5 an image of an iris by detecting the light ray
6 reflected on the eye;
7 an image pickup optical section for guiding the light ray
8 reflected on the eye to the image pickup section;

9 a target optical system for displaying a target for the
10 eye; and
11 an eyepiece for transmitting the target image to the eye
12 and for transmitting the image of the iris to the
13 image pickup optical system;
14 wherein the target optical system and the image pickup
15 optical system are integrated into a single unit.

1 30. (new) The iris camera module of claim 29, further
2 comprising a target screen where the target is displayed;

1 31. (new) The iris camera module of claim 30, further
2 comprising a condensing lens for gathering external light for
3 illuminating the target screen.

1 32. (new) The iris camera module of claim 30, further
2 comprising a screen illuminating section for illuminating the
3 target screen.

1 33. (new) The iris camera module according to claim 29,
2 wherein the image pickup optical section and the target
3 optical section include a common half mirror for reflecting to
4 guide the light ray reflected on the eye to the image pickup
5 section and guiding the image of the target on the target
6 screen to the eye without reflecting the image.

1 34. (new) An iris camera module according to claim 29
2 wherein the image pickup optical section and the target
3 optical section include a common half mirror for guiding the
4 light ray reflected on the eye to the image pickup section
5 without reflecting the light ray and reflecting to guide the
6 image of the target on the target screen to the eye.

1 35. (new) An iris camera module comprising:

2 an eye illuminating section for irradiating a light ray
3 onto the eye;
4 an image pickup section including a sensor for picking up
5 an image of an iris by detecting the light ray
6 reflected on the eye;
7 an image pickup optical section including an imaging lens
8 for guiding the light ray reflected on the eye to
9 the image pickup section;
10 a target optical system for displaying a target for the
11 eye; and
12 an eyepiece for transmitting the target image to the eye
13 and for transmitting the image of the iris to the
14 image pickup optical system;
15 wherein the target optical system and the image pickup
16 optical system are integrated into a single unit.

1 36. (new) An iris camera module comprising:
2 an image pickup optical system for picking up an image of
3 the iris; and
4 a target optical system including a common half mirror
5 for displaying a target for the eye without
6 reflecting the image;
7 wherein the target optical system and the image pickup
8 optical system are integrated into a single unit.

1 37. (new) The Iris camera module of claim 36, further
2 comprising a target optical system including a target screen
3 for displaying a target for the eye.

1 38. (new) The Iris camera module of claim 37, further
2 comprising a screen illuminating for illuminating the target
3 screen.